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=> file reg
FILE 'REGISTRY' ENTERED AT 16:03:34 ON 07 NOV 2003
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STRUCTURE FILE UPDATES:    6 NOV 2003  HIGHEST RN 613649-12-0
DICTIONARY FILE UPDATES:   6 NOV 2003  HIGHEST RN 613649-12-0

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

  Please note that search-term pricing does apply when
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Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available.  See HELP
PROPERTIES for more information.  See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> file caplus
FILE 'CAPLUS' ENTERED AT 16:03:37 ON 07 NOV 2003
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FILE COVERS 1907 - 7 Nov 2003  VOL 139 ISS 20
FILE LAST UPDATED: 6 Nov 2003  (20031106/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.


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L15       226278 SEA FILE=CAPLUS ABB=ON  PLU=ON  C09?/IC
L16            9 SEA FILE=CAPLUS ABB=ON  PLU=ON  PHOSPHONO? AND POLISH? AND
                 COMPOS?
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L17         1993 SEA FILE=CAPLUS ABB=ON  PLU=ON  PHOSPHONO? AND COMPOS?
L18           20 SEA FILE=CAPLUS ABB=ON  PLU=ON  PHOSPHONO? AND POLISH?
L19         2953 SEA FILE=CAPLUS ABB=ON  PLU=ON  POLISH?(3A)COMPOS?
L20       230117 SEA FILE=CAPLUS ABB=ON  PLU=ON  (L15 OR L16 OR L17 OR L18 OR
                 L19)
L34              STR
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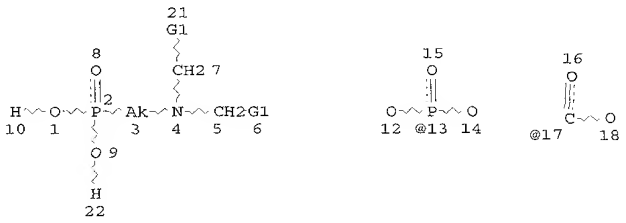


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NSPEC   IS C       AT   4
CONNECT IS E2  RC AT   3
CONNECT IS E3  RC AT   4
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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  19

STEREO ATTRIBUTES: NONE
L36          209 SEA FILE=REGISTRY SSS FUL L34
L37         2410 SEA FILE=CAPLUS ABB=ON  PLU=ON  L36
L39           16 SEA FILE=CAPLUS ABB=ON  PLU=ON  L37(L)?POLISH?
L40          237 SEA FILE=CAPLUS ABB=ON  PLU=ON  L37 AND L20
L41            3 SEA FILE=CAPLUS ABB=ON  PLU=ON  L40 AND ?PHOSPHONO? AND
                 ?POLISH? AND ?COMPOS?
L42           19 SEA FILE=CAPLUS ABB=ON  PLU=ON  L40 AND (?POLISH? OR ABRASIV?)

L43            4 SEA FILE=CAPLUS ABB=ON  PLU=ON  L40 AND (?POLISH? OR ABRASIV?)
                 AND CARRIER
L49           21 SEA FILE=CAPLUS ABB=ON  PLU=ON  L39 OR L41 OR L42 OR L43


=> d ti 1-21 l49

L49  ANSWER 1 OF 21  CAPLUS  COPYRIGHT 2003 ACS on STN
TI   CMP formulations for use on nickel-phosphorus alloys

L49  ANSWER 2 OF 21  CAPLUS  COPYRIGHT 2003 ACS on STN
TI   Liquid abrasive composition for polishing of
```

substrates

L49 ANSWER 3 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
TI **Phosphono** compound-containing **polishing composition** and method of using same

L49 ANSWER 4 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
TI **Abrasive** slurry **compositions**, substrate **polishing** by using the same, and manufacture of substrates involving the **polishing** step

L49 ANSWER 5 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
TI **Polishing composition** and magnetic recording disk substrate **polished** with the **polishing composition**

L49 ANSWER 6 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
TI Aluminum salt, alumina aqueous **polishing** solutions for **polishing** magnetic recording disk substrate

L49 ANSWER 7 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
TI Method for **polishing** a memory or rigid disk with a phosphate ion-containing **polishing** system

L49 ANSWER 8 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
TI Grinding **compositions** containing organic assistants

L49 ANSWER 9 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
TI Detergents for semiconductor device, cleaning method, and **abrasive compositions** and **polishing** method

L49 ANSWER 10 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
TI Cleaning solution for semiconductor surfaces following chemical-mechanical polishing

L49 ANSWER 11 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
TI Cleaning composition for semiconductor chemical-mechanical **polish**

L49 ANSWER 12 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
TI **Polishing** system with stopping compound and method of its use

L49 ANSWER 13 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
TI **Polishing** system and method of its use

L49 ANSWER 14 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
TI **Polishing** liquid **composition**

L49 ANSWER 15 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
TI Use of corrosion-inhibiting compounds to inhibit corrosion of metal plugs in chemical-mechanical polishing

L49 ANSWER 16 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN

TI Etching or cleaning of perovskite oxide surface.

L49 ANSWER 17 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
TI **Polishing composition** and method for **polishing** *magnetic disk substrates*

L49 ANSWER 18 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
TI Corrosion products removal methods and **compositions** for use therein

L49 ANSWER 19 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
TI **Electropolishing** behavior of *organophosphonic acid* and **composition** of viscous film on **electropolished** copper surface

L49 ANSWER 20 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
TI Tartar-inhibiting oral **compositions** containing fluoride, phosphorus-containing compounds and carboxyvinyl polymers

L49 ANSWER 21 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
TI Anti-tartar preparation for oral application

=> d ibib abs hitstr ind total l49

L49 ANSWER 1 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2003:696969 CAPLUS
DOCUMENT NUMBER: 139:221680
TITLE: CMP formulations for use on nickel-phosphorus alloys
INVENTOR(S): *Ward, Douglas Edwin; Solomos, David Peter*
PATENT ASSIGNEE(S): Saint-Gobain Ceramics & Plastics, Inc., USA
SOURCE: PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003072671	A1	20030904	WO 2003-US4935	20030218

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2002-80853 A 20020222

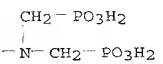
Page 5Eronini335

AB CMP formulations for use on Ni/P alloys comprise **abrasive** particles and an oxidant, a modifier for the action of the oxidant, and accelerants to sequester removed materials containing phosphonate and NH4+ or amine groups, resp., and optionally an organic carboxylic acid. Exptl. factorial design studied the interactions of constituents of H2O2, ethylenediamine, aluminum nitrate, HEDP, HPA, H3PO4, citric acid, glycine, oxalic acid, tartaric acid, etc.

IT **6419-19-8**, Aminotri(methylenephosphonic acid)
RL: TEM (Technical or engineered material use); USES (Uses)
(paste containing **abrasives**, oxidant, modifier, and accelerants for **polishing** nickel-phosphorus alloys)

RN 6419-19-8 CAPLUS

CN Phosphonic acid, [nitrilotris(methylene)]tris- (9CI) (CA INDEX NAME)



IC ICM **C09G001-02**
ICS **C09K003-14**

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 56

ST nickel phosphorus alloy chem mech **polishing** paste

IT **Polishing** materials
(**abrasive** pastes; paste containing **abrasives**, oxidant, modifier, and accelerants for **polishing** nickel-phosphorus alloys)

IT **Polishing**
(chemical-mech.; paste containing **abrasives**, oxidant, modifier, and accelerants for **polishing** nickel-phosphorus alloys)

IT Oxidizing agents
(paste containing **abrasives**, oxidant, modifier, and accelerants for **polishing** nickel-phosphorus alloys)

IT Carboxylic acids, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(paste containing **abrasives**, oxidant, modifier, and accelerants for **polishing** nickel-phosphorus alloys)

IT **Abrasives**
(**polishing** pastes; paste containing **abrasives**, oxidant, modifier, and accelerants for **polishing** nickel-phosphorus alloys)

IT 11149-64-7, Nickel-phosphorus alloy
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(paste containing **abrasives**, oxidant, modifier, and accelerants for **polishing** nickel-phosphorus alloys)

IT 50-21-5, Lactic acid, uses 56-40-6, Glycine, uses 57-13-6, Urea, uses 77-92-9, Citric acid, uses 87-69-4, Tartaric acid, uses 107-15-3, Ethylenediamine, uses 108-19-0, Biuret 144-62-7, Oxalic acid, uses

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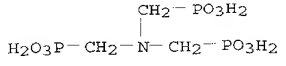
1306-38-3, Ceria, uses 1314-23-4, Zirconia, uses 1336-21-6, Ammonium hydroxide 1344-28-1, Alumina, uses 2809-21-4, 1-Hydroxyethylidene-1,1-diphosphonic acid 5995-42-6 **6419-19-8**, Aminotri(methylenephosphonic acid) 6484-52-2, Ammonium nitrate, uses 7631-86-9, Silica, uses 7631-97-2, Sodium fluorophosphate 13463-67-7, Titania, uses 37971-36-1, 2-**Phosphonobutane**-1,2,4-tricarboxylic acid 64392-62-7, Formamide acetate
RL: TEM (Technical or engineered material use); USES (Uses)
(paste containing **abrasives**, oxidant, modifier, and accelerants for **polishing** nickel-phosphorus alloys)
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L49 ANSWER 2 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2003:414282 CAPLUS
DOCUMENT NUMBER: 138:405694
TITLE: Liquid **abrasive composition** for **polishing** of substrates
INVENTOR(S): Oshima, Yoshiaki; Hagiwara, Toshiya
PATENT ASSIGNEE(S): Kao Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003155471	A2	20030530	JP 2002-218673	20020726
US 2003110710	A1	20030619	US 2002-218601	20020815
US 6620216	B2	20030916		
CN 1407045	A	20030402	CN 2002-142015	20020821

PRIORITY APPLN. INFO.: JP 2001-250346 A 20010821
AB The compns. contain **abrasives** having average primary particle size ≤200 nm, oxidizing agents, acids and/or their salts having pK1 ≤2, and water and have acid value of 0.2-20 mgKOH. Decreasing of microscratches on substrates and manufacture of substrates by using the compns. are also claimed. The substrates may be for magnetic disks.
IT **6419-19-8**, Aminotri(methylenephosphonic acid)
RL: TEM (Technical or engineered material use); USES (Uses)
(**polishing composition** component; liquid **abrasive** composition with limited acid values for **polishing** of substrates under microscratch prevention)
RN 6419-19-8 CAPLUS
CN Phosphonic acid, [nitrilotris(methylene)]tris- (9CI) (CA INDEX NAME)



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IC ICM **C09K003-14**
ICS B24B037-00; G11B005-84
CC 57-7 (Ceramics)
Section cross-reference(s): 77
ST liq **abrasive compn** substrate **polishing**; acid value controlled liq **abrasive** compn
IT **Polishing** materials
(**abrasive**; liquid **abrasive** composition with limited acid values for **polishing** of substrates under microscratch prevention)
IT Magnetic disks
(substrates; liquid **abrasive** composition with limited acid values for **polishing** of substrates under microscratch prevention)
IT Aluminum alloy, base
RL: MSC (Miscellaneous)
(substrates; liquid **abrasive** composition with limited acid values for **polishing** of substrates under microscratch prevention)
IT 11146-55-7
RL: MSC (Miscellaneous)
(aluminum alloy substrate coated with; liquid **abrasive** composition with limited acid values for **polishing** of substrates under microscratch prevention)
IT 7631-86-9, Colloidal silica, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(colloidal, **polishing composition** component; liquid **abrasive** composition with limited acid values for **polishing** of substrates under microscratch prevention)
IT 2809-21-4, 1-Hydroxyethylidene-1,1-diphosphonic acid 6419-19-8, Aminotri(methylenephosphonic acid) 7664-93-9, Sulfuric acid, uses 7697-37-2, Nitric acid, uses 7722-84-1, Hydrogen peroxide, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**polishing composition** component; liquid **abrasive** composition with limited acid values for **polishing** of substrates under microscratch prevention)

L49 ANSWER 3 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2003:301148 CAPLUS
DOCUMENT NUMBER: 138:307603
TITLE: **Phosphono** compound-containing **polishing composition** and method of using same
INVENTOR(S): Fang, Mingming
PATENT ASSIGNEE(S): Cabot Microelectronics Corporation, USA
SOURCE: PCT Int. Appl., 18 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

Applicant

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

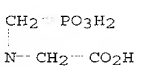
WO 2003031527 A1 20030417 WO 2002-US30149 20020920
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
US 2003134575 A1 20030717 US 2001-975335 20011011
PRIORITY APPLN. INFO.: US 2001-975335 A 20011011
OTHER SOURCE(S): MARPAT 138:307603

AB The invention provides a chemical-mech. **polishing** system for a substrate comprising a liquid **carrier**, a **polishing** pad and/or an **abrasive**, a per-type oxidizer, and a **phosphono** group-containing additive, as well as a method of using the same to **polish** substrates, particularly nickel-containing substrates. Thus, an **abrasive composition** for **polishing** Ni-P wafer contained 4 wt% of Bindzil 50/80, 1.2 wt% of hydrogen peroxide, and 1 wt% of nitrilotris(methylene) triphonic acid. The chemical-mech. **polishing** system is useful for the **polishing** of substrates such as semiconductor substrates, metallurgical samples, memory disk surfaces, magnetic heads, optical components, lenses, wafer masks, and the like.

IT **5994-61-6**, Nitrilotris(methylene) triphonic acid
RL: MOA (Modifier or additive use); USES (Uses)
(production of **phosphono** compound-containing **polishing composition**)

RN 5994-61-6 CAPLUS

CN Glycine, N-(carboxymethyl)-N-(phosphonomethyl)- (9CI) (CA INDEX NAME)



IC ICM **C09G001-02**
ICS **C09K003-14**

CC 56-6 (Nonferrous Metals and Alloys)
Section cross-reference(s): 76, 77

ST **phosphono** compd **polishing compn**
nitrilotrismethylene triphonic acid adhesive

IT **Polishing** materials
(**abrasive** pastes; production of **phosphono** compound-containing **polishing composition**)

IT **Abrasives**
(**polishing** pastes; production of **phosphono**

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compound-containing **polishing composition**)
IT Oxidizing agents
(production of **phosphono** compound-containing **polishing composition**)
IT 7631-86-9, Silica, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**abrasive** materials; production of **phosphono** compound-containing **polishing composition**)
IT 7722-84-1, Hydrogen peroxide, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(oxidizer; production of **phosphono** compound-containing **polishing composition**)
IT 110-89-4, Piperidine, uses 288-88-0, 1H-1,2,4-Triazole 5994-61-6, Nitrilotris(methylene) triphonic acid
RL: MOA (Modifier or additive use); USES (Uses)
(production of **phosphono** compound-containing **polishing composition**)
IT 172278-22-7, Bindzil 50/80
RL: TEM (Technical or engineered material use); USES (Uses)
(production of **phosphono** compound-containing **polishing composition**)
IT 10381-36-9, Nickel phosphate
RL: MSC (Miscellaneous)
(substrate; production of **phosphono** compound-containing **polishing composition**)
REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L49 ANSWER 4 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2002:866959 CAPLUS
DOCUMENT NUMBER: 137:361757
TITLE: **Abrasive** slurry **compositions**, substrate **polishing** by using the same, and manufacture of substrates involving the **polishing** step
INVENTOR(S): Oshima, Yoshiaki
PATENT ASSIGNEE(S): Kao Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002327170	A2	20021115	JP 2001-133650	20010427
US 2002194789	A1	20021226	US 2002-128365	20020424
CN 1384170	A	20021211	CN 2002-118591	20020426

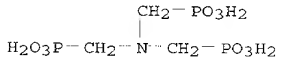
PRIORITY APPLN. INFO.: JP 2001-133650 A 20010427
AB The **abrasive** slurry compns. which improve surface qualities of substrates, are capable of high speed **polishing**, and have good

storage stability after compounding and long service life, useful for **polishing** magnetic disks and semiconductor devices, etc., contain **abrasives**, oxidizing agents, and organic phosphonic acids as abrasion accelerators, and water. Preferably, the **abrasives** are colloidal SiO2 and the oxidizing agents are H2O2. The slurry compns. gave surfaces with suppressed surface roughness and fine warpage, and free from surface defects and scratch.

IT **6419-19-8**, Aminotrimethylenephosphonic acid
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); USES (Uses)
(accelerator; **abrasive** slurry compns. containing organic phosphonic acids for substrate **polishing**)

RN 6419-19-8 CAPLUS

CN Phosphonic acid, [nitrilotris(methylene)]tris- (9CI) (CA INDEX NAME)



IC ICM **C09K003-14**
ICS **C09K003-14**; B24B037-00; G11B005-84; H01L021-304

CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 57

ST **abrasive** slurry org phosphonic acid accelerator; colloidal silica hydrogen peroxide **abrasive** slurry; magnetic disk substrate **polishing abrasive** slurry; substrate **polishing** org phosphonic acid slurry

IT Oxidizing agents
(H2O2; **abrasive** slurry compns. containing organic phosphonic acids for substrate **polishing**)

IT **Abrasives**
(**abrasive** slurry compns. containing organic phosphonic acids for substrate **polishing**)

IT Magnetic disks
(substrates; **abrasive** slurry compns. containing organic phosphonic acids for substrate **polishing** of)

IT 2809-21-4, 1-Hydroxyethylidene-1,1-diphosphonic acid **6419-19-8**, Aminotrimethylenephosphonic acid 15827-60-8 23605-74-5
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); USES (Uses)
(accelerator; **abrasive** slurry compns. containing organic phosphonic acids for substrate **polishing**)

IT 7631-86-9, Colloidal silica, uses
RL: NUU (Other use, unclassified); USES (Uses)
(colloidal, **abrasives**; **abrasive** slurry compns. containing organic phosphonic acids for substrate **polishing**)

IT 7722-84-1, Hydrogen peroxide, uses
RL: NUU (Other use, unclassified); USES (Uses)
(oxidizing agents; **abrasive** slurry compns. containing organic phosphonic acids for substrate **polishing**)

L49 ANSWER 5 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2002:696674 CAPLUS
DOCUMENT NUMBER: 137:225626
TITLE: **Polishing composition** and magnetic recording disk substrate **polished** with the **polishing composition**
INVENTOR(S): Ishitobi, Ken; Kumita, Tetsuro; Hon, Kimihiro; Suzuki, Yoshinori
PATENT ASSIGNEE(S): Showa Denko K. K., Japan
SOURCE: U.S. Pat. Appl. Publ., 10 pp., Cont.-in-part of Appl. No. PCT/JP01/05800.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002128327	A1	20020912	US 2002-42154	20020111
JP 2002020732	A2	20020123	JP 2000-204163	20000705
WO 2002002712	A1	20020110	WO 2001-JP5800	20010704

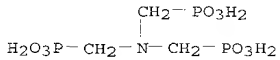
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: JP 2000-204163 A 20000705
US 2001-260883P P 20010112
WO 2001-JP5800 A2 20010704

AB A **polishing composition** includes at least water, alumina and a sol product derived from an aluminum salt. A magnetic recording disk substrate **polished** with the **polishing composition** suppresses formation of roll-off on the outer peripheral portion thereof, has a high-quality mirror-finished surface with few pits, nodules and scratches, and enables a distance between it and a magnetic head to be small, thereby making it possible to the recording d.

IT **6419-19-8P**, Aminotrimethylenephosphonic acid
RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(aluminum salt sol product aqueous solution **polishing compn** . for **polishing** of magnetic recording disk substrate composition)

RN 6419-19-8 CAPLUS
CN Phosphonic acid, [nitrilotris(methylene)]tris- (9CI) (CA INDEX NAME)



IC ICM B01F003-12
NCL 516093000
CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 66
ST **polishing compn** magnetic recording disk substrate
IT Magnetic disks
Polishing
(aluminum salt sol product aqueous solution **polishing compn**
. for **polishing** of magnetic recording disk substrate composition)
IT 102-71-6P, Triethanolamine, uses 139-12-8P, Aluminum acetate
637-12-7P, Aluminum stearate 1310-58-3P, Potassium hydroxide, uses
1310-73-2P, Sodium hydroxide, uses **6419-19-8P**,
Aminotrimethylenephosphonic acid 7446-70-0P, Aluminum chloride, uses
7664-41-7P, Ammonia, uses 7784-30-7P, Aluminum phosphate 10043-01-3P,
Aluminum sulfate 11121-16-7P, Aluminum borate 13473-90-0P, Aluminum
nitrate 18917-91-4P, Aluminum lactate
RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or
engineered material use); PREP (Preparation); RACT (Reactant or reagent);
USES (Uses)
(aluminum salt sol product aqueous solution **polishing compn**
. for **polishing** of magnetic recording disk substrate composition)

L49 ANSWER 6 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2002:31591 CAPLUS
DOCUMENT NUMBER: 136:73439
TITLE: Aluminum salt, alumina aqueous **polishing** solutions for **polishing** magnetic recording disk substrate
INVENTOR(S): Ishitobi, Ken; Kumita, Tetsuro; Hon, Kimihiro; Suzuki, Yoshinori
PATENT ASSIGNEE(S): Showa Denko K.K., Japan; Yamaguchi Seiken Kogyo K.K.
SOURCE: PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002002712	A1	20020110	WO 2001-JP5800	20010704

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

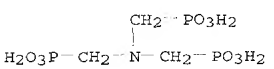
JP 2002020732	A2	20020123	JP 2000-204163		20000705
AU 2001069436	A5	20020114	AU 2001-69436		20010704
US 2002128327	A1	20020912	US 2002-42154		20020111
PRIORITY APPLN. INFO.:			JP 2000-204163	A	20000705
			US 2001-260883P	P	20010112
			WO 2001-JP5800	W	20010704

AB **Polishing compns.** include at least water, alumina and a sol product derived from an aluminum salt. The solns. contain aluminum hydroxide prepared from ammonia, KOH or NaOH and aluminum salt of organic or inorg. acids. A magnetic recording disk substrate **polished** with the **polishing composition** suppresses formation of roll-off on the outer peripheral portion shows a high-quality mirror-finished surface with few pits, nodules and scratches, and enables a distance between it and a magnetic head to be small making it possible to increase the recording d.

IT **6419-19-8**, Aminotrismethylenephosphonic acid
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(in **polishing** solution; aluminum salt, alumina aqueous **polishing** solns. for **polishing** magnetic recording disk substrate)

RN 6419-19-8 CAPLUS

CN Phosphonic acid, [nitrilotris(methylene)]tris- (9CI) (CA INDEX NAME)



IC ICM **C09K003-14**
ICS B24B037-00; B24B057-02; G11B005-84; C01F007-00

CC 57-7 (Ceramics)
Section cross-reference(s): 77

ST aluminum salt alumina **polishing compn** magnetic recording disk substrate

IT **Abrasives**
Particle size
(alumina; aluminum salt, alumina aqueous **polishing** solns. for **polishing** magnetic recording disk substrate)

IT **Polishing**
(aluminum salt, alumina aqueous **polishing** solns. for **polishing** magnetic recording disk substrate)

IT **Polishing** materials
(emulsions; aluminum salt, alumina aqueous **polishing** solns. for **polishing** magnetic recording disk substrate)

IT Acids, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)

KOROMA EIC1700

(inorg., **polishing** accelerator; aluminum salt, alumina aqueous **polishing** solns. for **polishing** magnetic recording disk substrate)

IT Amines, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(organic; aluminum salt, alumina aqueous **polishing** solns. for **polishing** magnetic recording disk substrate)

IT Surface defects
(**polished** magnetic disks; aluminum salt, alumina aqueous **polishing** solns. for **polishing** magnetic recording disk substrate)

IT Carboxylic acids, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(**polishing** accelerator; aluminum salt, alumina aqueous **polishing** solns. for **polishing** magnetic recording disk substrate)

IT Magnetic disks
(substrates; aluminum salt, alumina aqueous **polishing** solns. for **polishing** magnetic recording disk substrate)

IT 1344-28-1, Aluminum oxide (Al2O3), processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(**abrasive** particles; aluminum salt, alumina aqueous **polishing** solns. for **polishing** magnetic recording disk substrate)

IT 102-71-6, Triethanolamine, processes 139-12-8, Aluminum acetate 637-12-7, Aluminum stearate **6419-19-8**, Aminotrismethylenephosphonic acid 7446-70-0, Aluminum chloride, processes 7784-30-7, Aluminum phosphate 10043-01-3, Aluminum sulfate 11121-16-7, Aluminum borate 13473-90-0, Aluminum nitrate 18917-91-4, Aluminum lactate 21645-51-2, Aluminum hydroxide, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(in **polishing** solution; aluminum salt, alumina aqueous **polishing** solns. for **polishing** magnetic recording disk substrate)

IT 72-17-3, Sodium lactate 527-07-1, Sodium gluconate 676-46-0, Sodium malate 7786-81-4, Nickel sulfate
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(**polishing** accelerator; aluminum salt, alumina aqueous **polishing** solns. for **polishing** magnetic recording disk substrate)

IT 1310-58-3, Potassium hydroxide, processes 1310-73-2, Sodium hydroxide, processes 7664-41-7, Ammonia, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(**polishing** solution; aluminum salt, alumina aqueous **polishing** solns. for **polishing** magnetic recording disk substrate)

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

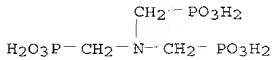
L49 ANSWER 7 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:935516 CAPLUS
DOCUMENT NUMBER: 136:73090
TITLE: Method for **polishing** a memory or rigid disk with a phosphate ion-containing **polishing** system
INVENTOR(S): Fang, Mingming; Wang, Shumin; Chou, Homer
PATENT ASSIGNEE(S): Cabot Microelectronics Corporation, USA
SOURCE: PCT Int. Appl., 19 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001098201	A2	20011227	WO 2001-US18056	20010604
WO 2001098201	A3	20020321		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 2001075207	A5	20020102	AU 2001-75207	20010604
PRIORITY APPLN. INFO.:			US 2000-595227 A	20000616
			WO 2001-US18056 W	20010604

AB A method and system for planarizing or **polishing** a substrate, particularly a memory or rigid disk, are provided. The method comprises abrading at least a portion of the surface with a **polishing** system comprising (i) a **polishing composition** comprising water, an oxidizing agent, and .apprx.0.04 M or higher phosphate ion or phosphonate ion, and (ii) **abrasive** material. The present invention also provides a system for planarizing or **polishing** a substrate comprising (i) a **polishing composition** comprising water, an oxidizing agent, and .apprx.0.04 M or higher phosphate ion or phosphonate ion, and (ii) silica particles.

IT **6419-19-8**, Nitrilotris(methylene)triphosphonic acid
RL: MOA (Modifier or additive use); USES (Uses)
(method for **polishing** a memory or rigid disk with a phosphate ion-containing **polishing** system)

RN 6419-19-8 CAPLUS
CN Phosphonic acid, [nitrilotris(methylene)]tris- (9CI) (CA INDEX NAME)



IC ICM C01B
CC 56-6 (Nonferrous Metals and Alloys)
ST nickel phosphorus disk **polishing**
IT Computers
(disks; method for **polishing** a memory or rigid disk with a phosphate ion-containing **polishing** system)
IT **Abrasives**
Magnetic disks
(method for **polishing** a memory or rigid disk with a phosphate ion-containing **polishing** system)
IT Peroxides, uses
Peroxysulfates
RL: MOA (Modifier or additive use); USES (Uses)
(method for **polishing** a memory or rigid disk with a phosphate ion-containing **polishing** system)
IT Phosphates, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(method for **polishing** a memory or rigid disk with a phosphate ion-containing **polishing** system)
IT Carbonates, uses
RL: MOA (Modifier or additive use); USES (Uses)
(percarbonates; method for **polishing** a memory or rigid disk with a phosphate ion-containing **polishing** system)
IT **Polishing**
(precision; method for **polishing** a memory or rigid disk with a phosphate ion-containing **polishing** system)
IT 7440-02-0, Nickel, uses 7723-14-0, Phosphorus, uses
RL: DEV (Device component use); USES (Uses)
(method for **polishing** a memory or rigid disk with a phosphate ion-containing **polishing** system)
IT **6419-19-8**, Nitrilotris(methylene)triphosphonic acid 7727-21-1, Potassium persulfate 7727-54-0, Ammonium persulfate 13147-57-4 15827-60-8, Diethylenetriaminepenta(methylenephosphonic acid)
RL: MOA (Modifier or additive use); USES (Uses)
(method for **polishing** a memory or rigid disk with a phosphate ion-containing **polishing** system)
IT 1071-23-4, 2-Aminoethyl dihydrogen Phosphate 1306-38-3, Ceria, uses 1309-48-4, Magnesia, uses 1310-53-8, Germania, uses 1314-23-4, Zirconia, uses 1344-28-1, Alumina, uses 2809-21-4, Dequest 2010 4408-78-0, **Phosphonoacetic** acid 7320-34-5, Potassium pyrophosphate 7722-76-1, Ammonium dihydrogen phosphate 7722-84-1, Hydrogen peroxide, uses 7758-29-4, Sodium phosphate (Na5P3O10) 7778-77-0, Potassium dihydrogen phosphate 10124-31-9, Ammonium phosphate 13463-67-7, Titania, uses 13598-36-2D, Phosphonic acid, derivs. 22042-96-2, Dequest 2066
RL: TEM (Technical or engineered material use); USES (Uses)
(method for **polishing** a memory or rigid disk with a phosphate

ion-containing **polishing** system)

IT 7631-86-9, Silica, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(particles; method for **polishing** a memory or rigid disk with a phosphate ion-containing **polishing** system)

L49 ANSWER 8 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:349188 CAPLUS
DOCUMENT NUMBER: 134:356572
TITLE: Grinding **compositions** containing organic assistants
INVENTOR(S): Ishitobi, Takeshi; Hung, Kung Hung; Oki, Shigeo; Hayashi, Yoshiki
PATENT ASSIGNEE(S): Showa Denko K. K., Japan; Yamaguchi Seiken Kogyo K. K.
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

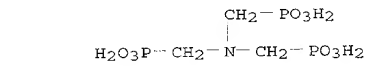
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001131535	A2	20010515	JP 1999-315059	19991105

PRIORITY APPLN. INFO.: JP 1999-315059 19991105

AB The **compns.** comprise water, **abrasive** powder (e.g., alumina), organic grinding assistants selected from phosphonic acid-type chelating compds. (e.g., diethylenetriamine pentamethylene phosphonic acid, **phosphonobutanetricarboxylic** acid and **phosphonohydroxyacetic** acid) and grinding accelerators (e.g., lactic acid or acid salt).

IT **6419-19-8**, NTMP
RL: MOA (Modifier or additive use); USES (Uses)
(grinding accelerator; grinding **compns.** containing organic assistants)

RN 6419-19-8 CAPLUS
CN Phosphonic acid, [nitrilotris(methylene)]tris- (9CI) (CA INDEX NAME)



IC ICM **C09K003-14**
ICS **C09K003-14**; G11B005-84
CC 57-9 (Ceramics)
Section cross-reference(s): 45
ST alumina **abrasive** grinding **compn** phosphonic acid chelating agent assistant; **phosphonohydroxyacetic** acid chelating agent grinding assistant; lactic acid accelerator grinding **compn**

KOROMA EIC1700

IT Grinding (machining)
(grinding **compns.** containing organic assistants)
IT Acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(organic, grinding accelerators; grinding **compns.** containing organic assistants)
IT Chelating agents
(phosphonic acid-type; grinding **compns.** containing organic assistants)
IT 1344-28-1, Alumina, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**abrasive**; grinding **compns.** containing organic assistants)
IT 50-21-5, Lactic acid, uses 72-17-3, Sodium lactate 526-95-4, Gluconic acid 527-07-1, Sodium gluconate 676-46-0, Sodium malate 1429-50-1, Ethylenediamine tetramethylene phosphonic acid 2809-21-4, Hydroxyethanediphosphonic acid **6419-19-8**, NTMP 6915-15-7, Malic acid 13138-45-9, Nickel nitrate 13473-90-0, Aluminum nitrate 15827-60-8, Diethylenetriamine pentamethylene phosphonic acid 23605-74-5 23783-26-8, **Phosphonohydroxyacetic** acid
RL: MOA (Modifier or additive use); USES (Uses)
(grinding accelerator; grinding **compns.** containing organic assistants)
IT 77-92-9, Citric acid, uses
RL: MOA (Modifier or additive use); USES (Uses)
(grinding accelerators; grinding **compns.** containing organic assistants)
IT 37971-36-1, **Phosphonobutanetricarboxylic** acid
RL: MOA (Modifier or additive use); USES (Uses)
(grinding assistants; grinding **compns.** containing organic assistants)
IT 66669-53-2, **Phosphonobutanetricarboxylic** acid tetrasodium salt
RL: MOA (Modifier or additive use); USES (Uses)
(grinding **compns.** containing organic assistants)

L49 ANSWER 9 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:271636 CAPLUS
DOCUMENT NUMBER: 134:312850
TITLE: Detergents for semiconductor device, cleaning method, and **abrasive compositions** and **polishing** method
INVENTOR(S): Bessho, Keiichi; Higami, Makoto; Ono, Kazuo; Ishikawa, Katsuhiro
PATENT ASSIGNEE(S): JSR Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

JP 2001107089 A2 20010417 JP 1999-286438 19991007
PRIORITY APPLN. INFO.: JP 1999-286438 19991007

AB The detergents comprise phosphonic acid compds. and water-soluble polymers or their salts having ≥1 functional group selected from sulfonic acids (salts), carboxylic acids (salts), phosphonic acids (salts), OH, functional groups with skeletons derived from ethylene oxide and propylene oxide, and N-containing functional groups. An aqueous solution containing 2% poly(acrylic acid) ammonium salt and 0.5% aminotri(methylenephosphonic acid) was used to clean a soiled silica-coated Si wafer, showing good detergency.

IT **6419-19-8**, Aminotri(methylenephosphonic acid)
RL: TEM (Technical or engineered material use); USES (Uses)
(detergents for semiconductor device, cleaning method, and **polishing compns.** and **polishing** method)

RN 6419-19-8 CAPLUS

CN Phosphonic acid, [nitrilotris(methylene)]tris- (9CI) (CA INDEX NAME)

IC ICM C11D007-26
ICS **C09K003-14**; C11D007-32; C11D007-34; C11D007-36; C11D007-60; H01L021-304

CC 46-6 (Surface Active Agents and Detergents)
Section cross-reference(s): 38, 76

ST detergent semiconductor device **polishing** method; silicon wafer cleaning phosphonic acid compd; polyacrylic acid ammonium salt detergent wafer

IT **Abrasives**
Detergents
Polishing
Semiconductor device fabrication
(detergents for semiconductor device, cleaning method, and **polishing compns.** and **polishing** method)

IT *Ionomers*
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(detergents for semiconductor device, cleaning method, and **polishing compns.** and **polishing** method)

IT *Polymers, uses*
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(water-soluble; detergents for semiconductor device, cleaning method, and **polishing compns.** and **polishing** method)

IT 9003-03-6P, Polyacrylic acid ammonium salt 25038-32-8DP, Styrene-isoprene copolymer, sulfonated, ammonium salt 25085-03-4P, Methacrylic acid-acrylamide copolymer 27119-07-9P, 2-Acrylamido-2-methylpropanesulfonic acid polymer 27754-99-0P 62891-53-6P 334996-86-0P, Acrylic acid-isoprenesulfonic acid-polyoxyethylene

monomethacrylate graft copolymer ammonium salt 334996-88-2P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(detergents for semiconductor device, cleaning method, and **polishing compns.** and **polishing** method)

IT 2809-21-4, 1-Hydroxyethylidene-1,1-diphosphonic acid 6419-19-8, Aminotri(methylenephosphonic acid)
RL: TEM (Technical or engineered material use); USES (Uses)
(detergents for semiconductor device, cleaning method, and **polishing compns.** and **polishing** method)

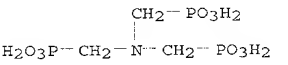
L49 ANSWER 10 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:247659 CAPLUS
DOCUMENT NUMBER: 134:274469
TITLE: Cleaning solution for semiconductor surfaces following chemical-mechanical polishing
INVENTOR(S): Wang, Shumin
PATENT ASSIGNEE(S): Cabot Microelectronics Corporation, USA
SOURCE: PCT Int. Appl., 19 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001024242	A1	20010405	WO 2000-US25999	20000922
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6395693	B1	20020528	US 1999-405249	19990927
EP 1218929	A1	20020703	EP 2000-963712	20000922
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
US 2002169088	A1	20021114	US 2002-154231	20020523
US 6541434	B2	20030401		

PRIORITY APPLN. INFO.: US 1999-405249 A 19990927
WO 2000-US25999 W 20000922

AB A composition and method are provided for cleaning contaminants from the surface of a semiconductor wafer after the wafer was chemical-mech. polished. The cleaning composition comprises a carboxylic acid, an amine-containing compound, a phosphonic acid, and H2O. The cleaning composition is useful in removing abrasive remnants as well as metal contaminants from the surface of a semiconductor wafer following chemical-mech. polishing.

IT **6419-19-8**, Aminotris(methylene phosphonic acid)
RL: TEM (Technical or engineered material use); USES (Uses)
(in cleaning solution for semiconductor surfaces following chemical-mech. **polishing**)
RN 6419-19-8 CAPLUS
CN Phosphonic acid, [nitrilotris(methylene)]tris- (9CI) (CA INDEX NAME)



IC ICM H01L021-306
ICS C11D007-26; C11D007-32; C11D007-36; C11D003-20; C11D001-46; C11D003-36
CC 76-3 (Electric Phenomena)
Section cross-reference(s): 66
ST cleaning soln polished semiconductor wafer
IT Polishing
(chemical-mech.; cleaning solution for semiconductor surfaces following chemical-mech. polishing)
IT Cleaning
Decontamination
(cleaning solution for semiconductor surfaces following chemical-mech. polishing)
IT Amides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(coco, N,N-bis(hydroxyethyl); in cleaning solution for semiconductor surfaces following chemical-mech. polishing)
IT Amines, uses
Carboxylic acids, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(in cleaning solution for semiconductor surfaces following chemical-mech. polishing)
IT Surfactants
(nonionic; in cleaning solution for semiconductor surfaces following chemical-mech. polishing)
IT 50-21-5, Lactic acid, uses 64-19-7, Acetic acid, uses 65-85-0, Benzoic acid, uses 69-72-7, Salicylic acid, uses 74-89-5, Methylamine, uses 75-04-7, Ethylamine, uses 75-50-3, Trimethylamine, uses 77-92-9, Citric acid, uses 78-96-6, Isopropanolamine 79-09-4, Propionic acid, uses 79-10-7, Acrylic acid, uses 79-14-1, Glycolic acid, uses 87-69-4, Tartaric acid, uses 102-71-6, Triethanolamine, uses 107-92-6, Butyric acid, uses 109-52-4, Valeric acid, uses 109-89-7, Diethylamine, uses 110-15-6, Succinic acid, uses 110-97-4, Diisopropanolamine 111-42-2, Diethanolamine, uses 121-44-8, Triethylamine, uses 122-20-3, Triisopropanolamine 124-40-3, Dimethylamine, uses 141-43-5, Ethanolamine, uses 526-95-4, Gluconic acid 1071-83-6 1116-54-7, Nitrosodiethanolamine 2809-21-4, 1-Hydroxyethylidene-1,1-diphosphonic acid **6419-19-8**, Aminotris(methylene phosphonic acid) 13598-36-2D, Phosphonic acid,

derivs.
RL: TEM (Technical or engineered material use); USES (Uses)
(in cleaning solution for semiconductor surfaces following chemical-mech. **polishing**)
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L49 ANSWER 11 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:174296 CAPLUS
DOCUMENT NUMBER: 134:209747
TITLE: Cleaning composition for semiconductor chemical-mechanical **polish**
INVENTOR(S): Bessho, Keiichi; Higami, Makoto; Ono, Kazuo; Ishikawa, Katsuhiro
PATENT ASSIGNEE(S): JSR Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 8
PATENT INFORMATION:

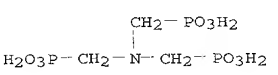
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001064685	A2	20010313	JP 1999-286439	19991007
US 6440856	B1	20020827	US 2000-661449	20000913

PRIORITY APPLN. INFO.: JP 1999-177463 A 19990623
JP 1999-260848 A 19990914
JP 1999-286439 A 19991007

AB Title composition as a cleaning agent or additive to a **polishing** agent comprises ≥2 selected from (A) carboxylic acid (salt) group-containing (co)polymers, (B) sulfonic acid (salt) group-containing (co)polymers, and (C) phosphonic acid (salt) group-containing (co)polymers. Thus, a contaminated SiO2-coated silicon wafer was treated with a solution containing ammonium polyacrylate and acrylamide-2-methylpropane sulfonic acid copolymer ammonium salt, showing good results.

IT **6419-19-8**, Amino tri(methylenephosphonic acid)
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(preparation of cleaning composition for semiconductor chemical-mech. **polish**)

RN 6419-19-8 CAPLUS
CN Phosphonic acid, [nitrilotris(methylene)]tris- (9CI) (CA INDEX NAME)



IC ICM C11D007-26
ICS **C09K003-14**; C11D007-32; C11D007-34; C11D007-36;

KOROMA EIC1700

H01L021-304; C11D003-14; C11D003-37
CC 46-6 (Surface Active Agents and Detergents)
Section cross-reference(s): 76
ST cleaning agent semiconductor chem mech **polish**
IT **Polishing**
(chemical-mech.; preparation of cleaning composition for semiconductor chemical-mech. **polish**)
IT Cleaning
Detergents
Polishing materials
Semiconductor materials
(preparation of cleaning composition for semiconductor chemical-mech. **polish**)
IT 1344-28-1, AKP 10, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**polishing** agent; preparation of cleaning composition for semiconductor chemical-mech. **polish**)
IT 9003-03-6P, Ammonium polyacrylate 25038-32-8DP, Isoprene-styrene copolymer, sulfonated, ammonium salt 25119-64-6P, Poly(itaconic acid) 26101-52-0P, Poly(vinyl sulfonic acid) 50851-57-5P, Poly(styrene sulfonic acid) 121601-24-9P, 2-Acrylamido-2-methylpropanesulfonic acid homopolymer ammonium salt
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of cleaning composition for semiconductor chemical-mech. **polish**)
IT 2809-21-4, 1-Hydroxyethylidene-1,1-diphosphonic acid **6419-19-8**, Amino tri(methylenephosphonic acid)
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(preparation of cleaning composition for semiconductor chemical-mech. **polish**)

L49 ANSWER 12 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:137315 CAPLUS
DOCUMENT NUMBER: 134:194692
TITLE: **Polishing** system with stopping compound and method of its use
INVENTOR(S): Wang, Shumin; Kaufman, Vlasta Brusic; Grumbine, Steven K.; Cherian, Isaac K.
PATENT ASSIGNEE(S): Cabot Microelectronics Corporation, USA
SOURCE: PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

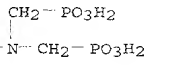
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

WO 2001012741 A1 20010222 WO 2000-US21952 20000810
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
EP 1218465 A1 20020703 EP 2000-952726 20000810
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL
JP 2003507896 T2 20030225 JP 2001-517629 20000810
TW 500784 B 20020901 TW 2000-89116226 20000811
US 2003153184 A1 20030814 US 2003-353512 20030129
US 2003170991 A1 20030911 US 2003-353542 20030129
PRIORITY APPLN. INFO.: US 1999-148813P P 19990813
US 2000-636161 A3 20000810
US 2000-636246 A3 20000810
WO 2000-US21952 W 20000810

AB The invention provides a system for **polishing** one or more layers of a multi-layer substrate that includes a first metal layer and a second layer comprising: (i) a liquid **carrier**, (ii) at least one oxidizing agent, (iii) at least one **polishing** additive that increases the rate at which the system **polishes** at least one layer of the substrate, (iv) at least one stopping compound with a **polishing** selectivity of the first metal layer:second layer of at least about 30:1, wherein the stopping compound is a cationically charged nitrogen containing compound selected from compds. comprising amines, imines, amides, imides, and mixts. thereof, and (v) a **polishing** pad and/or an **abrasive.** The invention also provides a method of **polishing** a substrate comprising contacting a surface of a substrate with the system and **polishing** at least a portion of the substrate therewith. Moreover, the invention provides a method for **polishing** one or more layers of a multi-layer substrate that includes a first metal layer and a second layer comprising: a) contacting the first metal layer with the system, and b) **polishing** the first metal layer with the system until at least a portion of the first metal layer is removed from the substrate. Moreover, the present invention provides a **composition** for **polishing** one or more layers of a multi-layer substrate that includes a first metal layer and a second layer comprising: (i) liquid **carrier**, (ii) at least one oxidizing agent, (iii) at least one **polishing** additive that increases the rate at which the system **polishes** at least one layer of the substrate, (iv) at least one stopping compound with a **polishing** selectivity of the first metal layer:second layer of at least about 30:1, wherein the stopping compound is a cationically charged nitrogen containing compound selected from compds. comprising amines, imines, amides, imides, and mixts. thereof, to be used with (v) a **polishing** pad and/or an **abrasive.**

IT **6419-19-8**, Dequest 2000

RL: MOA (Modifier or additive use); USES (Uses)
(**polishing** system with stopping compound and method of its use)
RN 6419-19-8 CAPLUS
CN Phosphonic acid, [nitrilotris(methylene)]tris- (9CI) (CA INDEX NAME)



IC ICM **C09G001-02**
CC 42-11 (Coatings, Inks, and Related Products)
ST **polish abrasive** stopping agent
IT **Abrasives**
Oxidizing agents
Polishing materials
(**polishing** system with stopping compound and method of its use)
IT Amides, uses
Amines, uses
Carboxylic acids, uses
Imides
Imines
RL: MOA (Modifier or additive use); USES (Uses)
(**polishing** system with stopping compound and method of its use)
IT Peroxides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**polishing** system with stopping compound and method of its use)
IT Polyethers, uses
RL: MOA (Modifier or additive use); USES (Uses)
(polyamine-; **polishing** system with stopping compound and method of its use)
IT *Polyamines*
RL: MOA (Modifier or additive use); USES (Uses)
(polyether-; **polishing** system with stopping compound and method of its use)
IT 56-18-8, N-(3-Aminopropyl)-1,3-propane diamine 56-87-1, Lysine, uses 64-04-0, 2-Phenylethylamine 87-69-4, Tartaric acid, uses 96-20-8 107-10-8, Propylamine, uses 109-55-7 112-02-7, Cetyltrimethyl ammonium chloride) 112-57-2, Tetraethylene-pentamine 124-09-4, Hexamethylenediamine, uses 616-29-5, 1,3-Diamino-2-propanol 929-06-6 1122-28-7, 1H-Imidazole-4,5-dicarbonitrile 2809-21-4, Dequest 2010 2855-13-2, Isophorone diamine 3312-60-5, N-Cyclohexyl-1,3-propane diamine 4246-51-9, 4,7,10-Trioxatridecane-1,13-diamine **6419-19-8**, Dequest 2000 6864-37-5, 3,3'-Dimethyl-4,4'-diaminodicyclohexylmethane 7209-38-3, 1,4-Bis(3-amino propyl) piperazine 9002-98-6, Polyethylenimine 10563-29-8 15827-60-8, Dequest 2060 16854-32-3, Thiomicamine 27195-72-8, Tetramethylbutanediamine 54303-31-0, 3-[2-Methoxyethoxy]propylamine 316356-99-7, Lupasol SKA
RL: MOA (Modifier or additive use); USES (Uses)
(**polishing** system with stopping compound and method of its use)
IT 1306-38-3, Ceria, uses 1310-53-8, Germania, uses 1314-23-4, Zirconia,

uses 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 7722-84-1, Hydrogen peroxide, uses 13463-67-7, Titania, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**polishing** system with stopping compound and method of its use)
IT 7440-25-7, Tantalum, miscellaneous 7440-50-8, Copper, miscellaneous
RL: MSC (Miscellaneous)
(wafers; **polishing** system with stopping compound and method of its use)
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L49 ANSWER 13 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:137314 CAPLUS
DOCUMENT NUMBER: 134:194691
TITLE: **Polishing** system and method of its use
INVENTOR(S): Wang, Shumin; Kaufman, Vlasta Brusic; Grumbine, Steven K.; Zhou, Renjie; Cherian, Isaac K.
PATENT ASSIGNEE(S): Cabot Microelectronics Corporation, USA
SOURCE: PCT Int. Appl., 32 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001012740	A1	20010222	WO 2000-US21938	20000810
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1226220	A1	20020731	EP 2000-953960	20000810
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
JP 2003507895	T2	20030225	JP 2001-517628	20000810
TW 500784	B	20020901	TW 2000-89116226	20000811
US 2003153184	A1	20030814	US 2003-353512	20030129
US 2003170991	A1	20030911	US 2003-353542	20030129

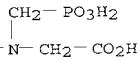
PRIORITY APPLN. INFO.: US 1999-148813P P 19990813
US 2000-636161 A3 20000810
US 2000-636246 A3 20000810
WO 2000-US21938 W 20000810

OTHER SOURCE(S): MARPAT 134:194691
AB The invention provides a system for **polishing** one or more layers of a multi-layer substrate that includes a first metal layer and a second layer comprising (i) a liquid **carrier**, (ii) at least one oxidizing

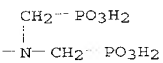
agent, (iii) at least one **polishing** additive that increases the rate at which the system **polishes** at least one layer of the substrate, wherein the **polishing** additive is selected from the group consisting of pyrophosphates, condensed phosphates, phosphonic acids and salts thereof, amines, amino alcs., amides, imines, imino acids, nitriles, nitros, thiols, thioesters, thioethers, carbothiolic acids, carbothionic acids, thiocarboxylic acids, thiosalicylic acids, and mixts. thereof, and (iv) a **polishing** pad and/or an **abrasive.** The invention also provides a method of **polishing** a substrate comprising contacting a surface of a substrate with the system and **polishing** at least a portion of the substrate therewith. Moreover, the invention provides a method for **polishing** one or more layers of a multi-layer substrate that includes a first metal layer and a second layer comprising (a) contacting the first metal layer with the system, and (b) **polishing** the first metal layer with the system until at least a portion of the first metal layer is removed from the substrate.

IT **5994-61-6**, N-**Phosphono**-methyliminodiacetic acid
6419-19-8, Dequest 2000
RL: MOA (Modifier or additive use); USES (Uses)
(**polishing** system and method of its use)

RN 5994-61-6 CAPLUS
CN Glycine, N-(carboxymethyl)-N-(phosphonomethyl)- (9CI) (CA INDEX NAME)



RN 6419-19-8 CAPLUS
CN Phosphonic acid, [nitrilotris(methylene)]tris- (9CI) (CA INDEX NAME)



IC ICM **C09G001-02**
CC 42-11 (Coatings, Inks, and Related Products)
ST **polish** oxidizing agent additive **abrasive**
IT Alcohols, uses
RL: MOA (Modifier or additive use); USES (Uses)
(amino; **polishing** system and method of its use)
IT Carboxylic acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(imino; **polishing** system and method of its use)
IT **Abrasives**
Oxidizing agents
Polishing materials
(**polishing** system and method of its use)

KOROMA EIC1700

IT Amides, uses
Amines, uses
Imines
Nitriles, uses
Thioethers
Thiols (organic), uses
RL: MOA (Modifier or additive use); USES (Uses)
(**polishing** system and method of its use)

IT Peroxides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**polishing** system and method of its use)

IT Esters, uses
RL: MOA (Modifier or additive use); USES (Uses)
(thio; **polishing** system and method of its use)

IT Carboxylic acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(thiocarboxylic; **polishing** system and method of its use)

IT 112-02-7, Cetyltrimethyl ammonium chloride
RL: MOA (Modifier or additive use); USES (Uses)
(Varisoft 300; **polishing** system and method of its use)

IT 56-18-8, N-(3-Aminopropyl)-1,3-propane diamine 56-87-1, Lysine, uses 68-11-1, Thioglycolic acid, uses 87-69-4, Tartaric acid, uses 95-45-4, Dimethylglyoxime 96-20-8, 2-Amino-1-butanol 107-10-8, Propylamine, uses 107-15-3, Ethylenediamine, uses 111-41-1 111-51-3, N,N,N',N'-Tetramethyl-1,4-butanediamine 112-57-2, Tetraethylenepentamine 124-09-4, Hexamethylene-diamine, uses 142-73-4, Iminodiacetic acid 506-93-4, Guanidine nitrate 616-29-5, 1,3-Diamino-2-propanol 628-87-5, Iminodiacetonitrile 929-06-6, 2-(2-Aminoethoxy)ethanol 1122-28-7, 1H-Imidazole-4,5-dicarbonitrile 2809-21-4, Dequest 2010 2855-13-2, Isophorone diamine 3312-60-5, N-Cyclohexyl-1,3-propane diamine 4246-51-9, 4,7,10-Trioxa-1,13-tridecanediamine 4408-78-0, **Phosphonoacetic** acid **5994-61-6**, N-**Phosphono**-methyliminodiacetic acid **6419-19-8**, Dequest 2000 7209-38-3, 1,4-Bis(3-aminopropyl) piperazine 7320-34-5, Potassium pyrophosphate 9002-98-6, Lupasol P 15827-60-8, Dequest 2060 16854-32-3, Thiomicamine 19847-12-2, Pyrazine carbonitrile 36465-90-4, Di-phosphonic acid 116770-99-1, Lupasol SC-61B 316356-99-7, Lupasol SKA
RL: MOA (Modifier or additive use); USES (Uses)
(**polishing** system and method of its use)

IT 1306-38-3, Ceria, uses 1310-53-8, Germania, uses 1314-23-4, Zirconia, uses 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 7722-84-1, Hydrogen peroxide, uses 13463-67-7, Titania, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**polishing** system and method of its use)

IT 7440-25-7, Tantalum, processes 7440-50-8, Copper, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(wafers; **polishing** system and method of its use)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L49 ANSWER 14 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:50748 CAPLUS

DOCUMENT NUMBER: 134:117247
TITLE: **Polishing** liquid **composition**
INVENTOR(S): *Yoneda, Yasuhiro; Hashimoto, Ryoichi; Hagihara, Toshiya*
PATENT ASSIGNEE(S): Kao Corporation, Japan
SOURCE: PCT Int. Appl., 69 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001004231	A1	20010118	WO 2000-JP4571	20000707
W: KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
JP 2001085374	A2	20010330	JP 2000-119690	20000420
JP 2001298004	A2	20011026	JP 2000-119678	20000420
EP 1198534	A1	20020424	EP 2000-944356	20000707
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				

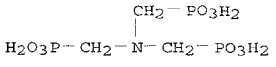
PRIORITY APPLN. INFO.: JP 1999-198263 A 19990713
JP 2000-30477 A 20000208
WO 2000-JP4571 W 20000707

OTHER SOURCE(S): MARPAT 134:117247

AB A ***polishing*** liquid **composition** for **polishing** a surface to be **polished** comprising an insulating layer and a metal layer is selected from: (1) a **polishing** liquid **compn**. comprising a compound having a structure in which each of two or more adjacent carbon atoms has a hydroxyl group in a mol., and water; (2) a **polishing** liquid **composition** comprising an aliphatic carboxylic acid having 7 to 24 carbon atoms and/or a salt thereof, an etching agent, and water; (3) a **polishing** liquid **composition** comprising an amine R3NR4R5, wherein R3 is a linear or branched alkyl group having 4 to 18 carbon atoms, a linear or branched alkenyl group having 4 to 18 carbon atoms, an aryl group having 6 to 18 carbon atoms, and an aralkyl group having 7 to 18 carbon atoms; each of R4 and R5, which may be identical or different, is hydrogen atom, a linear alkyl group having 1 to 8 carbon atoms or a branched alkyl group having 3 to 8 carbon atoms, or a group represented by H-(OR6)z-, wherein R6 is a linear alkylene group having 1 to 3 carbon atoms, or a branched alkylene group having 3 carbon atoms; and Z is a number of 1 to 20, and/or a salt thereof, an etching agent, and water.

IT **6419-19-8**, Aminotri-(methylene-phosphonicacid)
RL: TEM (Technical or engineered material use); USES (Uses)
(**polishing** liquid **composition**)

RN 6419-19-8 CAPLUS
CN Phosphonic acid, [nitrilotris(methylene)]tris- (9CI) (CA INDEX NAME)



IC C09K003-14; C09K013-00; C09G001-00; H01L021-30
CC 42-11 (Coatings, Inks, and Related Products)
ST **polishing** liq glycol amine carboxylic acid semiconductor substrate
IT Carboxylic acids, uses
RL: TEM (*Technical or engineered material use*); USES (Uses)
(aliphatic; **polishing** liquid **composition**)
IT **Polishing** materials
(liquid; **polishing** liquid **composition**)
IT Amines, uses
RL: TEM (*Technical or engineered material use*); USES (Uses)
(**polishing** liquid **composition**)
IT Semiconductor devices
(substrate; **polishing** liquid **composition**)
IT 7631-86-9, Colloidal silica, uses
RL: TEM (*Technical or engineered material use*); USES (Uses)
(colloidal; **polishing** liquid **composition**)
IT 77-92-9, Citric acid, uses 79-14-1, Glycolic-acid, uses 88-99-3, Phthalicacid, uses 111-14-8, Heptanoicacid 111-86-4, Octylamine 112-05-0, Nonanoicacid 112-18-5 112-20-9, Nonylamine 112-80-1, Oleic acid, uses 112-90-3, Oleylamine 124-07-2, Octanoicacid, uses 334-48-5, Decanoicacid 526-95-4, Gluconic-acid 624-52-2 1541-67-9, Dodecyldiethanolamine 2016-57-1, Decylamine 3030-30-6 4181-80-0 **6419-19-8**, Aminotri-(methylene-phosphonicacid) 6920-22-5, 1,2-Hexanediol 7647-01-0, Hydrochloric acid, uses 7664-93-9, Sulfuric acid, uses 7722-84-1, Hydrogen peroxide, uses 25103-52-0, Isooctanoicacid 60302-96-7
RL: TEM (Technical or engineered material use); USES (Uses)
(**polishing** liquid **composition**)
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L49 ANSWER 15 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
Good ACCESSION NUMBER: 2000:362580 CAPLUS
DOCUMENT NUMBER: 132:355544
TITLE: Use of corrosion-inhibiting compounds to inhibit corrosion of metal plugs in chemical-mechanical polishing
INVENTOR(S): Pasch, Nicholas F.
PATENT ASSIGNEE(S): LSI Logic Corporation, USA
SOURCE: U.S., 9 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6068879	A	20000530	US 1997-918360	19970826
US 6383414	B1	20020507	US 2000-526101	20000315

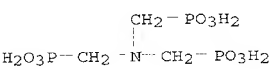
PRIORITY APPLN. INFO.: US 1997-918360 A3 19970826

AB A process of inhibiting corrosion of metal plugs formed in integrated circuits includes providing a partially fabricated integrated circuit surface including the metal plugs on a polishing pad to carry out chemical-mech. polishing, introducing slurry including a corrosion-inhibiting compound on the polishing pad in sufficient concentration to inhibit corrosion of the metal plugs, and polishing the partially fabricated integrated circuit surface.

IT **6419-19-8**
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(corrosion inhibitor; inhibition corrosion of metal plugs in chemical-mech. **polishing**)

RN 6419-19-8 CAPLUS

CN Phosphonic acid, [nitrilotris(methylene)]tris- (9CI) (CA INDEX NAME)



IC ICM B05D005-12
ICS H01L021-461

NCL 427097000

CC 76-3 (Electric Phenomena)
Section cross-reference(s): 56

ST corrosion inhibition metal plug chem mech polishing; integrated circuit metal plug chem mech polishing corrosion inhibition

IT Polishing
(chemical-mech.; corrosion inhibiting compds. to inhibit corrosion of metal plugs in chemical-mech. polishing)

IT Corrosion inhibitors
(corrosion inhibiting compds. inhibition corrosion of metal plugs in chemical-mech. polishing)

IT Corrosion prevention
Slurries
(corrosion inhibiting compds. to inhibit corrosion of metal plugs in chemical-mech. polishing)

IT Semiconductor device fabrication
(corrosion inhibiting compds. to inhibit corrosion of metal plugs in chemical-mech. polishing in)

IT Integrated circuits
(corrosion inhibiting compds. to inhibit corrosion of metal plugs in chemical-mech. polishing of)

KOROMA EIC1700

IT Abrasives
Oxidizing agents
(inhibition corrosion of metal plugs in chemical-mech. polishing)

IT 1344-28-1, Aluminum oxide (Al2O3), processes 7631-86-9, Silica, processes 11129-18-3, Cerium oxide
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(abrasive; inhibition corrosion of metal plugs in chemical-mech. polishing)

IT 95-14-7, 1H-Benzotriazole 95-16-9, Benzothiazole 100-42-5D, sulfonated 149-30-4, 2(3H)-Benzothiazolethione 288-13-1, 1H-Pyrazole 288-14-2, Isoxazole 288-16-4, Isothiazole 288-32-4, 1H-Imidazole, processes 288-42-6, Oxazole 288-47-1, Thiazole 2809-21-4 5685-05-2, 2(3H)-Thiazolethione 5995-25-5 6419-19-8 7487-88-9, Sulfuric acid magnesium salt (1:1), processes 7733-02-0 29385-43-1 37306-44-8, Triazole
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(corrosion inhibitor; inhibition corrosion of metal plugs in chemical-mech. polishing)

IT 7778-18-9
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(corrosion inhibitor; to inhibition corrosion of metal plugs in chemical-mech. polishing)

IT 1336-21-6, Ammonium hydroxide ((NH4)(OH)) 7664-39-3, Hydrofluoric acid, processes
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(in corrosion inhibition of metal plugs in chemical-mech. polishing)

IT 1310-58-3, Potassium hydroxide (K(OH)), processes 7722-84-1, Hydrogen peroxide (H2O2), processes 7758-05-6 10421-48-4
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(oxidizing agent; inhibition corrosion of metal plugs in chemical-mech. polishing)

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L49 ANSWER 16 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2000:67901 CAPLUS
DOCUMENT NUMBER: 132:130803
TITLE: Etching or cleaning of perovskite oxide surface.
INVENTOR(S): Cooper, Emanuel Israel; Duncombe, Peter Richard; Libovitz, Robert Benjamin; Rosenberg, Robert
PATENT ASSIGNEE(S): International Business Machines Corp., USA
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000031133	A2	20000128	JP 1999-98333	19990406

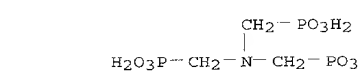
PRIORITY APPLN. INFO.: US 1998-57204 19980408

AB The title method involves contacting the perovskite oxide surface to an etchant containing H2O2 and an optional complexing and/or buffering agent. Addnl., the etchant may contain a mechanochem. **polishing** material. Specifically, the perovskite oxide may comprises a dielec. material, magnetoresistance material, and superconductor. Addnl., a conductor such as Pt, Ir, Pd, Ru, W or their oxides may be formed on the perovskite oxide surface. Optionally, the etchant may be used for removing RIE residues in forming a capacitor structure during semiconductor device fabrication.

IT **6419-19-8**, Nitrilo-tris methylenephosphonic acid
RL: TEM (Technical or engineered material use); USES (Uses)
(etching or cleaning of perovskite oxide surface by etchant containing hydrogen peroxide)

RN 6419-19-8 CAPLUS

CN Phosphonic acid, [nitrilotris(methylene)]tris- (9CI) (CA INDEX NAME)



IC ICM H01L021-308
ICS **C09K013-04**; H01L021-304

CC 76-3 (Electric Phenomena)
Section cross-reference(s): 77

ST hydrogen peroxide etching cleaning perovskite oxide

IT **Polishing**
(chemical-mech.; etching or cleaning of perovskite oxide surface by etchant containing hydrogen peroxide)

IT Cleaning
Electric insulators
Etching
Magnetic materials
Semiconductor device fabrication
Superconductors
(etching or cleaning of perovskite oxide surface by etchant containing hydrogen peroxide)

IT Oxides (inorganic), processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(etching or cleaning of perovskite oxide surface by etchant containing hydrogen peroxide)

IT 7439-88-5, Iridium, processes 7440-05-3, Palladium, processes 7440-06-4, Platinum, processes 7440-18-8, Ruthenium, processes 7440-33-7, Tungsten, processes 11115-71-2, Bismuth titanate 12626-80-1, Lanthanum lead titanium oxide 37305-87-6, Barium strontium titanate 109064-29-1, Barium copper yttrium oxide (Ba2Cu3YO7)

131622-09-8, Calcium lanthanum manganese strontium oxide 166877-45-8, Bismuth strontium tantalum oxide
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(etching or cleaning of perovskite oxide surface by etchant containing hydrogen peroxide)

IT 60-00-4, Ethylenediamine tetraacetic acid, uses 139-13-9, Nitrilotriacetic acid 1344-28-1, Alumina, uses 1429-50-1, Ethylenediamine tetra-methylenephosphonic acid 1939-36-2, Trimethylenediamine tetraacetic acid **6419-19-8**, Nitrilo-tris methylenephosphonic acid 7631-86-9, Silica, uses 7722-84-1, Hydrogen peroxide, uses 130314-14-6
RL: TEM (Technical or engineered material use); USES (Uses)
(etching or cleaning of perovskite oxide surface by etchant containing hydrogen peroxide)

L49 ANSWER 17 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1997:542206 CAPLUS
DOCUMENT NUMBER: 127:237976
TITLE: **Polishing composition** and method for **polishing** magnetic disk substrates
INVENTOR(S): Ishitobi, Takeshi; Kido, Takanori
PATENT ASSIGNEE(S): Showa Denko K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

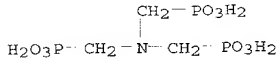
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09208934	A2	19970812	JP 1996-34179	19960130

PRIORITY APPLN. INFO.: JP 1996-34179 19960130

AB A **polishing composition** for mirror-finish grinding magnetic disk substrates contains a **polishing** slurry consisting of water, fumed SiO2, and Al(NO3)3, and a gelling preventing agent consisting of phosphonic acid, phenanthroline, or Al acetylacetonate. The fumed silica particles have an average diameter of 5-120 μm. HNO3 may be used in addition to
Al(NO3)3.

IT **6419-19-8**, Aminotrimethylenephosphonic acid
RL: TEM (Technical or engineered material use); USES (Uses)
(gelling preventing agent; **polishing composition** and method for **polishing** magnetic disk substrates)

RN 6419-19-8 CAPLUS
CN Phosphonic acid, [nitrilotris(methylene)]tris- (9CI) (CA INDEX NAME)



KOROMA EIC1700

IC ICM **C09K003-14**
ICS **C09K003-14**; B24B037-00; G11B005-84; H01L021-304
CC 57-1 (Ceramics)
Section cross-reference(s): 77
ST magnetic disk **polishing compn**
IT Magnetic disks
Polishing materials
(**polishing composition** and method for **polishing** magnetic disk substrates)
IT 66-71-7, 1,10-Phenanthroline 2809-21-4, 1-Hydroxyethylidene-1,1-diphosphonic acid **6419-19-8**, Aminotrimethylenephosphonic acid 13598-36-2, Phosphonic acid 13963-57-0, Aluminum acetylacetonate
RL: TEM (Technical or engineered material use); USES (Uses)
(gelling preventing agent; **polishing composition** and method for **polishing** magnetic disk substrates)
IT 7631-86-9, Fumed silica, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**polishing** slurry containing fumed; **polishing composition** and method for **polishing** magnetic disk substrates)
IT 7697-37-2, Nitric acid, uses 13473-90-0, Aluminum nitrate
RL: TEM (Technical or engineered material use); USES (Uses)
(**polishing** slurry containing; **polishing compn**
. and method for **polishing** magnetic disk substrates)

L49 ANSWER 18 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1997:18391 CAPLUS
DOCUMENT NUMBER: 126:50844
TITLE: Corrosion products removal methods and **compositions** for use therein
INVENTOR(S): Syder, Milton W.; Bortnik, Michael
PATENT ASSIGNEE(S): Chem Pro Laboratory, Inc., USA
SOURCE: PCT Int. Appl., 20 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9635645	A1	19961114	WO 1996-US6518	19960508

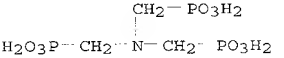
W: CA, JP, MX
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
PRIORITY APPLN. INFO.: US 1995-440412 19950512
AB A method is described for removing corrosion products formed in-situ, transported corrosion products, iron staining from water, which resides on fixtures, and unwanted materials trapped within and/or in association with corrosion products from iron, steels, and copper, alloys of these metals and from other surfaces, specifically including glasses, plastics, elastomers, ceramics, tiles and porcelains. The method comprises

contacting corroded surfaces and/or surfaces supporting corrosion products with an aqueous **composition** containing citric acid or its salts, ≥1 organophosphonate or its salts, and ≥1 water-soluble polymer or its salts. A corrosion inhibitor may be included in the **composition**. One or more alkali metal or alkaline earth metal or ammonium hydroxides may be included for adjusting the pH, and/or for controlling the kinetics of the removal method. Enhancements such as **abrasives**, coloring agents and odorizers may also be included.

IT **6419-19-8**, Aminotrimethylenephosphonic acid
RL: NUU (Other use, unclassified); USES (Uses)
(method and **compns.** for removing corrosion products from water systems)

RN 6419-19-8 CAPLUS

CN Phosphonic acid, [nitrilotris(methylene)]tris- (9CI) (CA INDEX NAME)



IC ICM C02F005-10
ICS C02F005-14; C23G001-02

CC 61-8 (Water)

ST corrosion product removal water purifn

IT Water purification
(corrosion prevention; method and **compns.** for removing corrosion products from water systems)

IT Corrosion inhibitors
(method and **compns.** for removing corrosion products from water systems)

IT Corrosion
(products; method and **compns.** for removing corrosion products from water systems)

IT 77-92-9, 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, uses 1310-58-3, Potassium hydroxide, uses 1310-73-2, Sodium hydroxide, uses 1336-21-6, Ammonium hydroxide 1429-50-1, Ethylenediaminetetramethylenephosphonic acid 2809-21-4, HEDP **6419-19-8**, Aminotrimethylenephosphonic acid 9003-01-4, Polyacrylic acid 13598-36-2, Phosphonic acid 15827-60-8, Diethylenetriaminepentamethylenephosphonic acid 23605-74-5 37971-36-1, 2-**Phosphonobutane**-1,2,4-tricarboxylic acid
RL: NUU (Other use, unclassified); USES (Uses)
(method and **compns.** for removing corrosion products from water systems)

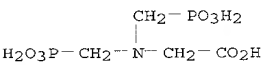
L49 ANSWER 19 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1990:505264 CAPLUS
DOCUMENT NUMBER: 113:105264
TITLE: **Electropolishing** behavior of organophosphonic acid and **composition** of viscous film on **electropolished** copper surface

AUTHOR(S): Fang, Jingli; Ding, Jianping; Wu, Naijun
CORPORATE SOURCE: Inst. Appl. Chem., Nanjing Univ., Nanjing, 210008, Peop. Rep. China
SOURCE: Yingyong Huaxue (1990), 7(1), 53-7
CODEN: YIHUED; ISSN: 1000-0518
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

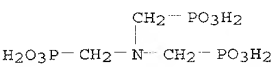
AB The **electropolishing** behavior of five organopolyphosphonic acids has been studied. The results showed that 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP), 1-**ethylphosphonoethylidene** -1,1-diphosphonic acid (EEDP) and N,N'-bis(**phosphonomethyl**)glycine (DMPG) can be used for **electropolishing** Cu and its alloy, and among them the HEDP gave the best result. Viscous liquid film was observed in all conditions used, such as HEDP concns., pH of solns. and kind of **electropolishing** solution (H3PO4, HEDP, and H3PO4 + HEDP). No P was found in **electropolished** Cu surface by XPS and Auger line. The viscous liquid film obtained from H3PO4 + HEDP solution possesses very good film-forming characteristics. The **composition** of the viscous film can be established from the constant **composition** region of the depth profile curve and may be considered to be a tetranuclear coordination polymeric compd.of phosphate and HEDP.

IT **2439-99-8 6419-19-8**
RL: PRP (Properties)
(in **electropolishing** of copper)

RN 2439-99-8 CAPLUS
CN Glycine, N,N-bis(phosphonomethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 6419-19-8 CAPLUS
CN Phosphonic acid, [nitrilotris(methylene)]tris- (9CI) (CA INDEX NAME)



CC 72-7 (Electrochemistry)
Section cross-reference(s): 56

ST **polishing** electrochem organophosphonic acid copper surface

IT **Polishing**
(electrochem., of copper in solution containing organophosphonic acid)

IT 1317-38-0P, Copper oxide (CuO), preparation 1317-39-1P, Cuprous oxide, preparation
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, on copper after **electropolishing**)

IT 7664-38-2, Phosphoric acid, uses and miscellaneous 128945-75-5

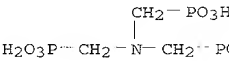
KOROMA EIC1700

RL: USES (Uses)
(in **electropolishing** of copper)
IT 1429-50-1 **2439-99-8** 2809-21-4 **6419-19-8**
RL: PRP (Properties)
(in **electropolishing** of copper)
IT 7440-50-8, Copper, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(**polishing** of, electrochem., in organophosphonic acid)

L49 ANSWER 20 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1990:411964 CAPLUS
DOCUMENT NUMBER: 113:11964
TITLE: Tartar-inhibiting oral **compositions** containing fluoride, phosphorus-containing compounds and carboxyvinyl polymers
INVENTOR(S): Amjad, Zahid
PATENT ASSIGNEE(S): Goodrich, B. F., Co., USA
SOURCE: Eur. Pat. Appl., 20 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 341662	A2	19891115	EP 1989-108325	19890509
EP 341662	A3	19910424		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
US 4892724	A	19900109	US 1988-191668	19880509
AU 8934563	A1	19891109	AU 1989-34563	19890509
AU 628817	B2	19920924		
CN 1038933	A	19900124	CN 1989-104287	19890509
JP 02056414	A2	19900226	JP 1989-115948	19890509

PRIORITY APPLN. INFO.: US 1988-191668 19880509
AB Tartar-inhibiting oral **compns.** contain a fluoride, a dental **abrasive**, and an anticalculus agent which is a mixture of ≥1 P-containing compound and ≥1 carboxylic polymer. Data are given showing that mixts. of a P-containing compound and a polymer exhibit synergistic results in terms of hydroxyapatite inhibition. Polymers which showed superior synergism included acrylic acid-methacrylic acid-tert-butylacrylamide polymer, 2-acrylamidomethylpropanesulfonic acid-acrylic acid polymer and poly(maleic acid). Superior P-containing compds. included aminotri(methylenephosphonic acid), hydroxyethane-1,1-diphosphonic acid, and 2-**phosphonobutane**-1,2,4-tricarboxylic acid.
IT **6419-19-8**, Aminotri(methylene phosphonic acid)
RL: BIOL (Biological study)
(oral **compns.** containing carboxyvinyl polymers and, for tartar and hydroxyapatite formation inhibition)
RN 6419-19-8 CAPLUS
CN Phosphonic acid, [nitrilotris(methylene)]tris- (9CI) (CA INDEX NAME)



IC ICM A61K007-16
CC 62-7 (Essential Oils and Cosmetics)
Section cross-reference(s): 1, 63
ST tartar inhibitor oral; phosphorus compd tartar inhibitor **compn**; carboxyvinyl polymer tartar inhibitor **compn**; calculus inhibition phosphorus compd polymer
IT Acrylic polymers, biological studies
RL: BIOL (Biological study)
(oral **compns.** containing phosphorus-containing compds. and, tartar-inhibiting)
IT Dentifrices
(tartar-inhibiting, phosphorus-containing compds. and carboxyvinyl polymers in)
IT Tooth
(disease, calculus, inhibitors, oral **compns.** containing carboxyvinyl polymers and phosphorus compds. as)
IT 2809-21-4 **6419-19-8**, Aminotri(methylene phosphonic acid) 7723-14-0D, Phosphorus, compds. 37971-36-1, 2-**Phosphonobutane**-1,2,4-tricarboxylic acid
RL: BIOL (Biological study)
(oral **compns.** containing carboxyvinyl polymers and, for tartar and hydroxyapatite formation inhibition)
IT 9003-01-4, Polyacrylic acid 26099-09-2, Polymaleic acid 39373-34-7, Acrylic acid-hydroxypropylacrylate copolymer 40623-75-4, Acrylic acid-2-acrylamido-2-methylpropanesulfonic acid copolymer 62152-03-8, Acrylic acid-2-sulfoethylmethacrylate copolymer 97222-49-6, Acrylic acid-dimethyl itaconate copolymer 107532-52-5 109973-46-8, Acrylic acid-tert-butylacrylamide-methacrylic acid polymer 115635-04-6 126816-65-7
RL: BIOL (Biological study)
(oral **compns.** containing phosphorus compds. and, for tartar and hydroxyapatite formation inhibition)
IT 7631-86-9, Silica, biological studies 7681-49-4, Sodium fluoride, biological studies 7783-47-3, Stannous fluoride 10163-15-2, Sodium monofluorophosphate 16984-48-8, Fluoride, biological studies 21645-51-2, Aluminum hydroxide, biological studies
RL: BIOL (Biological study)
(oral **compns.** containing, tartar-inhibiting)

L49 ANSWER 21 OF 21 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1969:528773 CAPLUS
DOCUMENT NUMBER: 71:128773
TITLE: Anti-tartar preparation for oral application
INVENTOR(S): Medcalf, Ralph F., Jr.
PATENT ASSIGNEE(S): Procter and Gamble Co.

SOURCE: Ger. Offen., 19 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

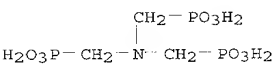
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1908067	A	19690904	DE 1969-1908067	19690218
DE 1908067	B2	19770811		
US 3639569	A	19720201	US 1968-706685	19680219
NO 125796	B	19721106	NO 1969-453	19690206
SE 355493	B	19730430	SE 1969-2054	19690214
BE 728532	A	19690818	BE 1969-728532	19690217
FR 2002164	B1	19730112	FR 1969-3901	19690217
FR 2002164	A1	19691017		
FI 50054	B	19750901	FI 1969-494	19690217
NL 6902561	A	19690821	NL 1969-2561	19690218
AT 285051	B	19701012	AT 1969-1614	19690218
DK 119571	B	19710125	DK 1969-886	19690218
GB 1232889	A	19710519	GB 1969-1232889	19690218
CH 527614	A	19720915	CH 1969-527614	19690218

PRIORITY APPLN. INFO.: US 1968-706685 19680219

AB Prepns. for inhibition of the formation of tartar on human teeth, e.g. in the form of a tooth paste contain 0.01-10% by weight of at least one tris(**phosphonoalkyl**)amine [(HO)2P(O)CRR']3N in which the R and R' are H or low alkyl, or of a pharmaceutically suitable salt, together with a suitable **carrier**, the pH of the preparation being 4.0-11.0. The alkyl in the **phosphonoalkyl** group in the compound is preferably Me, Et, or Pr. When used in the form of a tooth paste, the preparation also contains 20-60% by weight of a usual **abrasive** agent. Tooth paste formulations are given.

IT **4105-01-5 26380-41-6**
RL: BIOL (Biological study)
(tooth paste containing, teeth calculus prevention with)

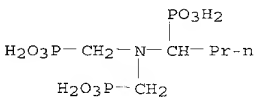
RN 4105-01-5 CAPLUS
CN Phosphonic acid, [nitrilotris(methylene)]tris-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 26380-41-6 CAPLUS
CN Phosphonic acid, [1-[bis(phosphonomethyl)amino]butyl]-, indium(3+) salt

(1:2) (8CI) (CA INDEX NAME)



2 In(III)

IC A61K
CC 63 (Pharmaceuticals)
ST antitartar **phosphono** amines **compns**; **phosphono** amines antitartar **compns**; amines **phosphono** antitartar **compns**; tooth pastes **phosphono** amines
IT Teeth
(calculus, phosphonic acid derivative-containing tooth paste in prevention of)
IT Dentifrices
(phosphonic acid derivative-containing tooth paste, for teeth calculus prevention)
IT Phosphonic acid, derivs.
RL: BIOL (Biological study)
(tooth paste containing, teeth calculus prevention with)
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RL: BIOL (Biological study)
(tooth paste containing, teeth calculus prevention with)

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